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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/463,560	03/21/00	LAMBERT	N TPP30852

EXAMINER

IM52/0404

THOMAS P PAVELKO
STEVENS DAVIS MILLER & MOSHER
1615 L STREET NW
SUITE 850
WASHINGTON DC 20036

ART UNIT	PAPER NUMBER
1762	7

PADGETT, M

DATE MAILED: 04/04/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/463,560	Lambert et al
Examiner	**Group Art Unit**
M.L. Padgett	1762

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

☒ Responsive to communication(s) filed on 3/21/00 & 4/13/00.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1-23 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-23 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 11 9(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☒ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

*Certified copies not received: _____.

Attachment(s)

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). filed with Application

☐ Interview Summary, PTO-413

☐ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other _____

Office Action Summary

1. It is noted that the preliminary amendment filed with this case is mislabeled as being to "Seven Kornfalt et al", instead of Labert et al. Also, on page 2 there is an amendment to cancel claim 23, which was not enter, because there is no such claim in the case.

2. Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Lack of proper antecedent bases is objected to in "the step of..." (claim 1, line 10); "the oxygen concentration" (claim 4, line 2); "the coating material" (claim 9, lines 1-2; note its inconsistent with 2 possible intended means, coating composition or multi-functional material); and "the range" (claim 18, line 3).

In claim 1, line 6 "centimetre" should be converted to the U.S. English spelling (please proofread the specification for similar problems). In lines 8-9 "comprising between 30% and 100%..." is somewhat contradictory as comprising is open language, so anything maybe added, but 100% excludes any additions. Also, how are the percentages measured, vol. %, wt.% mole%, etc.? Requiring "at least a reactive part comprising...multi-functional material" is confusing, as it is unclear as claimed if the multifunctional which is referred to in claims 6,7 and 8 as possibly being multiple species, modifies each species or can be taken as the group of species having multiple functionalities. In other words, can each of several reactive diluents have different functionality, hence be multifunctional overall, or most each diluent have several groups?

Claim 3 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Nitrogen is a group VA element, not an inert gas which in the last column of the periodic table. Alternately, use of relative terms, that lack clear metes and bounds in the claims, or in a clear definition in the specification or relevant prior art, is vague and indefinite, ie. in claims 1 and 2 the gas is inert with respect to what? N_2 reacts with quite a number of substances; so "inert" is relative.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moussa et al alone, or especially in view of Jonssen et al.

Moussa et al teaches photo-crosslinking in UV-light without the need of a photo-initiator, and employing a monoacrylic reactive diluent, or a poly (meth) acrylate reactive dilettante (col. 5, lines 21-29+ and col 6, lines 12-16; abstract). In the background, it is further disclosed that polyfunctional acrylates enable the reactivity to be increased in comparison with the use of monofunctional acrylates, see column 2, lines 3-8. However, it is also disclosed that the use of polyfunctional acrylates results in a residual unsaturated content, which is markedly higher after

cross-linking. This results in a less satisfactory behavior of the coating towards light during ageing, in that it yellows rapidly with possible losses of mechanical properties, column 3, lines 10-17, but such prior art cautions are not relevant in view of the claims as written; and Moussa et al's explicit use. In examples 32-35 (col 14-15) a comparison of UV cure under air (Ex 33 and 35) and under an inert N_2 atmosphere (Ex. 32 and 34) is made, where a carbonate reactive dilettante is employed, plus diacrylic polyurethane, and NO photo initiator. Moussa et al teaches that the polymerization under N_2 was faster than under air (col. 5, lines 15-8), suggesting that minimizing oxygen concentration, a known polymerization inhibiter, as desirable, hence obvious. It is also suggestive that it would result in less unsaturation in the inert atmosphere.

This set of examples does not teach the parameters of the UV lamps employed, or other dependant limitations, however col 4, lines 21-38+ list various multifunction crosslinkable compounds, including poly (meth) acrylic oligomer with average Molecular weights between 500-5000; col. 6, lines 37-50 mention UV lamps, use of additives such as surfactants, gloss adjusting agents, fillers and colorants, which would have been suggested of the claimed clay, silica and magnetizable particles. In the first coating examples (5-14) on col 8, line 29-44, Hg medium pressure vapor lamps, having a spectral window from 250-400 nm, with 700 W power and an irradiance of $14.6x10^{-2}$ W/cm^2 were used. Neither of these measurements are directly comparable to applicants claimed "at least 140 watts per linear" centimeter, because the length of the lamps employed is undefined for both Moussa et al and applicant's claims. In Ex. 27-31, which the inert N_2 atmosphere examples 32 and 34 refer back to, the med. pres. Hg lamp used 2,000 W power

and $52.5x10^{-2}$ W/cm^2. Moussa et al does not have a general teaching concerning dosage, therefore one of ordinary skill in the art, while using the area irradiance as a guide line, would use routine experimentation to optimize UV fluence or dosage in curing. Alternately, especially considering known trends of faster curing rates at higher intensities (figures 3-4, col 9, lines 35-col 10 in line 38), as shown by Jonssen et al who UV polymerizes without photoinitiators, with a bulb whose major output is in the same general spectral region (fig. 5) as taught by Moussa et al of 250 to 400 nm, the trends would have been expected in general, but parameters optimized for particular compositions, and particular lamps, whose spectra will vary. Choice of a particular range or set of wavelength peaks for a composition with no particular functional groups or resins (claim 1), has very little significance, as it can provide no particular effect, to unspecified compositional components.

5. Any inquiry concerning this communication should be directed to M.L. Padgett at telephone number (703) 308-2336 on M-F from about 8 am-4:30 pm, and FAX # (703) 305-5408. (official), or 305-6078 (unofficia)

MARIANNE PADGETT
PRIMARY EXAMINER
GROUP 1700

Padgett/af

April 3, 2001

April 4, 2001